

Operator Panel Instructions

Model: SMT120Q

Description: 120 Ton Rental Air Handler with electric heat

STEP 1: Determine the operating mode intended to run. The unit can run in COOLING ONLY, HEATING MODE, or DH (dehumidification) MODE. In all modes the blower will operate.

COOLING MODE: designed for when only chilled water cooling is needed (no heat). Only the controller which modulates the chilled water valve is powered.

HEATING MODE: all 4 stages of heat may be used. Stage 1 & 2 are ON/OFF only and are controlled via IR33-1 HTG controller. Stage 3 & 4 are modulating type (precise control) and our controller via the IR33-2 DH controller

DH MODE: both cooling and stage 3 & 4 of heat will function.

STEP 2: Confirm that all circuit breakers are in the on position. There are both single and 3 pole circuit breakers on the unit (all should be in the ON position)

STEP 3: Apply power to the unit:

***** The unit is Equipped with a voltage and phase monitor relay. The device protects against over and under voltage, imbalance, and incorrect phasing. If any items are not within the devices power requirements the INCORRECT POWER light will be lit. The device also has a minimum 15 second start-up timer (light will be powered for the first 15 seconds on start). If INCORRECT POWER light is lit after 90 seconds, correct incorrect power situation. Once correct power is established the POWER ON light should be lit.

STEP 4: Turn the 1 SW switch to the VFD position. The blower should start and airflow should be achieved.

STEP 5: Set the speed potentiometer at the desired airflow, motor amps, or static as required per job

STEP 6: Turn 2SW to the desired configuration: COOLING / HEATING / DH: once engaged the corresponding controller should POWER.

STEP 7 – FOR COOLING: The display on the D350 should be powered when the 2SW is in the COOLING position. Set the speed potentiometer at the desired temperature:

The sensor for cooling is located on the leaving air side of the chilled water cooling coil

If the desired leaving air temperature is not being maintained check the entering and leaving chilled fluid temperatures and flow

STEP 7 – FOR HEATING: Both the IR33-1 & IR33-2 displays should both be powered when the 2SW switch is in the HEATING position.

It is the customer's responsibility to always follow the written operating instructions of the unit and maintain safe work practices. Only industry certified and trained professionals should work on refrigeration and HVAC equipment

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Stages 1 & 2 are controlled via the IR33-1 (HTG) controller. Both stages 1 & 2 can be run manually, remotely, or via the IR33-1. Determine the desired mode of operating. Set 3SW to the desired operating mode for heat stage 1. Set 4SW for the desired operating mode of heat stage 2. If in local mode the IR33-1 can control off of supply (leaving) air temperature or return (entering) air temperature. Set 5SW to RA for return air control and SA for supply air control

Stages 3 & 4 are controlled via the IR33-2 (DH) controller. Stages 3 & 4 are used for precise temperature control. Set 6SW to determine if the IR33-2 will control via supply air (leaving air) SA, or return (entering air) RA.

STEP 7 - FOR DH: The display on the D350 should be powered when the 2SW is in the DH position as well as the IR33-2. Set the speed potentiometer at the desired temperature:

The sensor for cooling is located on the leaving air side of the chilled water cooling coil

If the desired leaving air temperature is not being maintained check the entering and leaving chilled fluid temperatures and flow

Stages 3 & 4 are controlled via the IR33-2 (DH) controller. Stages 3 & 4 are used for precise temperature control. Set 6SW to determine if the IR33-2 will control via supply air (leaving air) SA, or return (entering air) RA.

Typical operation for DH mode is that the cooling coil with “over cool” coil below the desired temperature, and stages 3 & 4 heat will be used to “reheat” to the desired leaving or return air temperature

Notes: the unit has multiple safeties. Many are manual reset including: overloads for blower and each stage of heat, and CUH cabinet temperature safety switch.

TAG	Description	SETTING:
AFS	Airflow switch	45HZ (typically 6-8,000 CFM)
CUH	Cabinet temp switch	150F / manual reset
HTL5	Heat box temp switch	185F (device displays in Celsius - 85C)
HTL1, 2, 3 & 4	Element high temp limit	324F / Manual reset
PMR	PHASE MONITORING	460V/ 3% UNBAL 5 sec FAULT DELAY/15 sec RESTART DELAY

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